

**Amendments to the Claims**

Please amend claim 51, cancel claim 53 and add new claims 56-58 as follows. This listing of claims will replace all prior versions and listings of claims in this application:

**Listing of Claims:**

1-50. Canceled.

51. (Currently Amended) A method of producing a blastula or morula comprising:

(i) inserting a desired differentiated human ~~or mammalian~~ donor cell or cell nucleus into an enucleated bovine animal oocyte, ~~wherein such oocyte is derived from a different animal species than the human or mammalian donor cell or cell nucleus~~ under conditions suitable for the formation of a nuclear transfer (NT) unit;

(ii) introducing mitochondria or mitochondrial DNA derived from a human cell or cells ~~of the same species as said donor cell or cell nucleus~~ into said oocyte;

(iii) activating the resultant nuclear transfer unit; and

(iv) culturing said activated nuclear transfer unit to the morula or blastula stage.

52. (Previously presented) The method according to claim 51, wherein said mitochondria or mitochondrial DNA is derived from the cells of the donor.

53. (Canceled)

54. (Previously presented) The method according to claim 51, wherein said step (ii) may be performed before or after step (i).

55. (Previously presented) The method according to claim 51, wherein said step (ii) may be performed before or after step (iii).

56. (New) The method of claim 51, wherein step (iv) comprises culturing said nuclear transfer unit on a feeder layer.

57. (New) The method of claim 56, wherein the feeder layer comprises fibroblasts.

58. (New) The method of claim 57, wherein the feeder layer comprises mouse embryonic fibroblasts.